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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/740,201

12/18/2000

Cian E. O'Meara

673-1019

4327

23644 7590 11/06/2009
BARNES & THORNBURG LLP
P.O. BOX 2786
CHICAGO, IL 60690-2786

EXAMINER

BOYCE, ANDRE D

ART UNIT

PAPER NUMBER

3623

NOTIFICATION DATE

DELIVERY MODE

11/06/2009

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte CIAN E. O'MEARA,
MICHAEL BROSNAN,
PAUL KELLY,
DEREK HYLAND, and
DAMIAN KILLEEN

Appeal 2008-004382
Application 09/740,201
Technology Center 3600

Decided: November 4, 2009

Before HUBERT C. LORIN, ANTON W. FETTING, and
BIBHU R. MOHANTY, *Administrative Patent Judges*.

LORIN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Cian E. O'Meara, et al. (Appellants) seek our review under 35 U.S.C. § 134 of the final rejection of claims 1-36. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

SUMMARY OF DECISION

We AFFIRM-IN-PART¹ and enter new grounds of rejection pursuant to 37 CFR § 41.50(b).

THE INVENTION

The claimed invention “relates to the allocation of location-based orders to mobile agents.” Specification 1:4.

Claim 1, reproduced below, is illustrative of the subject matter on appeal.

1. A computer-implemented method of allocating a location-related order to one of a plurality of mobile agents, comprising the steps of:

a) maintaining a current order record identifying a first location and first time at which each agent is expected to become free to fulfill a new order;

b) maintaining a prioritized listing of locations including both scheduled locations which an agent is currently due to visit and unscheduled locations which said agent is not currently due to visit, with locations in said listing being prioritized to rank both the scheduled and unscheduled locations for

Our decision will make reference to the Appellants' Appeal Brief (“App. Br.,” filed Aug. 9, 2007) and Reply Brief (“Reply Br.,” filed Jan. 18, 2008), and the Examiner's Answer (“Answer,” mailed Nov. 19, 2007).

said agent according to availability of the agent to reach each location after said first time, said availability having been calculated for each location irrespective of whether or not said agent is currently due to visit a particular location in said listing;

c) receiving said location-based order and recording the location and time at which said order is to be fulfilled;

d) determining from said prioritized listing of locations a suitable agent to fulfill said order; and

e) allocating said order to said suitable agent

THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability:

Kocur	US 5,913,201	Jun. 15, 1999
Sisley	US 5,943,652	Aug. 24, 1999
Powell	US 2002/0065700 A1	May 30, 2002
Ditcharo	US 6,587,851 B1	Jul. 1, 2003

The following rejections are before us for review:

1. Claims 1-17, 22-25, 27, and 30-36 are rejected under 35 U.S.C. §103(a) as being unpatentable over Powell and Kocur.
2. Claims 18-20, 26, and 28 are rejected under 35 U.S.C. §103(a) as being unpatentable over Powell, Kocur, and Sisley.
3. Claims 21 and 29 are rejected under 35 U.S.C. §103(a) as being unpatentable over Powell, Kocur, and Ditcharo.

ISSUE

The issue is whether Powell's description of a work schedule that has slack time filled with pooled work orders teaches a step of maintaining a prioritized listing of locations including both scheduled locations which an agent is currently due to visit and unscheduled locations which the agent is not currently due to visit.

FINDINGS OF FACT

We find that the following enumerated findings of fact (FF) are supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

The scope and content of the prior art

Powell

1. Powell describes a method of assigning service work assignments and pooled work assignments to a mobile work force. Powell [0033].
2. Powell describes first creating an initial schedule for each work force member having service work assignments. Powell [0038]-[0039].
3. Powell describes that the initial schedules are then examined to determine periods of availability and slack time. Powell [0039].
4. Powell describes that the slack time on the initial schedule is then filled with pooled work orders. Powell [0042].
5. Powell takes into account geography when scheduling work assignments. *See* Powell [0040], [0044], and [0045].

Kocur

6. The Examiner cited Kocur to teach using distance and travel time minimizing technique to create a route for each worker. Answer 5 and 13.

Sisley

7. The Examiner cited Sisley to teach specifying and storing a travel time in a travel time file. Answer 9.

Ditcharo

8. The Examiner cited Ditcharo to teach an access unit that allows technician to retrieve information and run test. Answer 11.

Any differences between the claimed subject matter and the prior art

9. Powell does not describe maintaining a listing of locations that includes both scheduled and unscheduled locations which an agent is currently due to visit and unscheduled locations which the agent is not currently due to visit.

The level of skill in the art

10. Neither the Examiner nor the Appellants have addressed the level of ordinary skill in the pertinent art of allocating location-based orders to mobile agents. We will therefore consider the cited prior art as representative of the level of ordinary skill in the art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (“[T]he absence of specific findings on the level of skill in the art does not give rise to reversible error ‘where the prior art itself reflects an appropriate level and a need for testimony is not

shown””) (Quoting *Litton Indus. Prods., Inc. v. Solid State Sys. Corp.*, 755 F.2d 158, 163 (Fed. Cir. 1985)).

Secondary considerations

11. There is no evidence on record of secondary considerations of non-obviousness for our consideration.

PRINCIPLES OF LAW

Obviousness

Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

KSR Int’l Co. v. Teleflex Inc., 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, and (3) the level of skill in the art. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). *See also KSR*, 550 U.S. at 407 (“While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”) The Court in *Graham* further noted that evidence of secondary considerations “might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.” *Graham*, 383 U.S. at 17-18.

ANALYSIS

The rejection of claims 1-17, 22-25, 27, and 30-36 under 35 U.S.C. §103(a) over Powell and Kocur.

Method Claims 1-18, 22 and 23

The Appellants and the Examiner dispute whether Powell's description of a work schedule that had slack time filled with pooled work orders teaches a step of "maintaining a prioritized listing of locations including both scheduled locations which an agent is currently due to visit and unscheduled locations which the agent is not currently due to visit" as recited in claims 1 and 23. App. Br. 12-13, Reply Br. 2-3 and Answer 12-13. The Examiner asserts that "the calculation of revised schedule or route 40, based upon minimization of travel time, which includes *previously* unscheduled pooled work request, is indeed a prioritized listing of locations, including both scheduled locations which an agent is currently due to visit and unscheduled locations which said agent is not *currently* due to visit." Answer 13. (Emphasis added.) We note that the Examiner cited Kocur to teach prioritizing the list to rank the locations by availability as also recite in claim 1. FF 6. The Appellants dispute the Examiner's assertion that the previously unscheduled pooled work request is an unscheduled location which the agent is not currently due to visit as recited in the claim. Reply Br. 2-3. The Appellants argue that "[o]nce in a schedule and on an agent's route, the work order is not unscheduled and the location is by definition, a location which the agent is due to visit." Reply Br. 3.

We agree with the Appellants. Both claims 1 and 23 recite a prioritized list which includes locations that are scheduled and unscheduled,

wherein an agent is not *currently* due to visit the unscheduled location. In Powell the prioritized listing is a revised schedule. FF 1-4. Therefore, a location cannot be unscheduled and still be included on the listing of Powell. We find that the Examiner has failed to establish a prima facie showing of obviousness. Accordingly, we find that the Appellants have shown that the Examiner erred in rejecting claims 1-18, 22 and 23 under 35 U.S.C. § 103(a) over Powell and Kocur.

Apparatus Claims 24-25, 27 and 36

Independent claims 24 and 36 both recite an apparatus which includes locations including both scheduled locations and unscheduled locations and a processor that is structured to use the prioritized listing to determine a suitable agent to fill the order. For the same reasons as provided for claim 1, we find that the Examiner has not established a prima facie case of obviousness for claims 24 and 36 as well as dependent claims 25 and 27. Accordingly, we find that the Appellants have shown that the Examiner erred in rejecting claims 24-25, 27, and 36 under 35 U.S.C. §103(a) over Powell and Kocur.

Article Claims 30-34

Unlike the other independent claims, claim 30 does not require a step or a structure to determine a suitable agent to fulfill the location-related order using the prioritized listing, which includes scheduled and unscheduled locations. Claim 30 only recites an agent profile having a current order file and a prioritized listing of locations, which includes

scheduled and unscheduled locations, stored on a computer-readable medium. Claim 30 is drawn to a data structure.

The question here is whether claim 30 requires that the data include *scheduled and unscheduled locations*. The distinction - that the data includes *scheduled and unscheduled locations* - is a distinction based on the content of the data. Patentable weight need not be given to descriptive material absent a new and unobvious functional relationship between the descriptive material and the substrate. *See In re Lowry*, 32 F.3d 1579, 1582-83 (Fed. Cir. 1994); *In re Ngai*, 367 F.3d 1336, 1339 (Fed. Cir. 2004). *See also Ex parte Mathias*, 84 USPQ2d 1276, 1279 (BPAI 2005) (nonprecedential) (Federal Circuit Appeal No. 2006-1103; WL 2433879 affirmed without written opinion Aug. 17, 2006). In that regard, the Appellants have not come forward with evidence sufficient to show that the structure of the information, *i.e.*, “the prioritized scheduled and unscheduled locations”, are functionally affected by being, specifically, scheduled and unscheduled locations.

Accordingly, we find that the Appellants have not shown that the Examiner erred in rejecting claims 30 and claims 31-34, dependent thereon, under § 103(a) as unpatentable over Powell and Kocur. We note, however, that the Examiner asserted that Powell described this limitation. *See Answer 4, 9, and 13*. Since our reasoning in affirming the rejection of claim 30 significantly differs from the Examiner’s reasoning, we denote this rejection as a new ground of rejection.

Claim 35

Claim 35 recites a computer program product in a machine readable form which has instructions which cause a server to perform the method recited in claims 1 and 23. For the same reasons as provided for claim 1, we find that the Examiner has not established a prima facie case of obviousness of claim 35. Accordingly, we find that the Appellants have shown that the Examiner erred in rejecting claim 35 under 35 U.S.C. §103(a) over Powell and Kocur.

The rejection of claims 18-20, 26, and 28 under 35 U.S.C. §103(a) over Powell, Kocur, and Sisley.

This rejection is directed to claims dependent on claims 1 and 24, whose rejection we have reversed above. We note that the Examiner did not cite Sisley to teach the limitation at issue in claim 1 above. *See* FF 7. For the same reasons, we will not sustain the rejections of claims 18-20, 26, and 28 over the cited prior art. Accordingly, we find that the Appellants have shown that the Examiner erred in rejecting claims 18-20, 26, and 28.

The rejection of claims 21 and 29 under 35 U.S.C. §103(a) over Powell, Kocur, and Ditcharo.

This rejection is directed to claims dependent on claims 1 and 24, whose rejection we have reversed above. We note that the Examiner did not cite Ditcharo to teach the limitation at issue in claim 1 above. *See* FF 8. For the same reasons, we will not sustain the rejections of claims 21 and 29 over the cited prior art. Accordingly, we find that the Appellants have shown that the Examiner erred in rejecting claims 21 and 29.

NEW GROUND OF REJECTION

Pursuant to 37 CFR § 41.50(b), we enter a new ground of rejection. We reject claims 1-22 and 35 under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

Method Claims 1-22

The issue is whether the subject matter of claims 1-22 is patent eligible under 35 U.S.C. § 101.

Claims 1-22 are directed to a “computer-implemented” method for allocating a location-related order to one of a plurality of mobile agents. Taking claim 1 as representative of the method claims, it describes a method comprising steps of a) maintaining a current order file, b) maintaining a prioritized listing, c) receiving a location-based order, d) determining a suitable agent and d) allocating the order. We note that none of the steps are limited by structure or apparatus other than to be, concomitant with the claimed process as a whole, “computer-implemented.” Giving claim 1 its broadest reasonable construction in light of the Specification as it would be interpreted by one of ordinary skill in the art, claim 1 is drawn to a series of “computer-implemented” steps for gathering data (steps a-c), manipulating function (step d), and communicating a result (step d).

In regards to the maintaining steps (steps a and c), the Specification describes maintaining data in a current orders file and a skill set file. Specification 12:24-25 and 15:21-23. The scope of these maintaining steps broadly describes data-gathering steps. In regards to the receiving step (step c), the Specification describes an operator receiving an address and time for the order. Specification 15:14-19. The scope of this step broadly describes

data-gathering steps. These steps are not limited by structure or apparatus other than to be, concomitant with the claimed process as a whole, “computer-implemented.”

In regards to the determining step (step d), the Specification describes using a simple “matching function” to scan the data to determine which agent has the highest priority rating for the locality. Specification 4:3-7. In regards to the allocating step (step c), the Specification describes allocating an order by assigning or communicating the order to an agent. Specification 16:9-12. These steps too also are not limited by structure or apparatus other than to be, concomitant with the claimed process as a whole, “computer-implemented.”

Accordingly, the broadest reasonable construction of claim 1 in light of the Specification as it would be interpreted by one of ordinary skill in the art is that it describes a series of “computer-implemented” steps for gathering data, manipulating a function, and communicating a result. The field of use for the function is allocating location-related orders. The method recites steps and is thus nominally drawn to a process. However,

the proper inquiry under § 101 is not whether the process claim recites sufficient “physical steps,” but rather whether the claim meets the machine-or-transformation test. [fn]25 As a result, even a claim that recites “physical steps” but neither recites a particular machine or apparatus, nor transforms any article into a different state or thing, is not drawn to patent-eligible subject matter. Conversely, a claim that

purportedly lacks any “physical steps” but is still
tied to a machine or achieves an eligible
transformation passes muster under § 101.

In re Bilski, 545 F.3d 943, 961 (Fed. Cir. 2008) (en banc).

Only the machine prong of the *Bilski* test is at issue here because the claimed method does not transform a particular article into a different state or thing.

The machine prong of the *Bilski* machine-or-transformation test is satisfied by showing that a claimed process is “tied to a particular machine.” *Bilski*, 545 F.3d at 954. Claim 1 does not recite a particular machine per se. Rather, the claim recites the phrase “computer-implemented” in the preamble. This indicates to those of skill reading the claim that the steps in the claimed process are to be effected or carried out via the use of a computer. Whether an indication in a preamble of a process claim to the effecting or carrying out of subsequent process steps via a computer is sufficient to tie the process to a “particular” machine and thereby satisfy the machine prong of the *Bilski* machine-or-transformation test for a claimed process to pass §101 muster is an open legal question. But we find that, in this case, the recitation of the phrase “computer-implemented” in the preamble of the claim is insufficient to satisfy the test.

As we have reasonably broadly construed it (*see supra*), claim 1 is drawn to a series of computer-implemented steps for gathering data, manipulating a function, and communicating the result. Steps a-c and step e do not impose meaningful limits on the claim's scope. “This court and our predecessor court have frequently stated that adding a data-gathering step to

an algorithm is insufficient to convert that algorithm into a patent-eligible process.” *Bilski*, 545 F.3d at 963.

The *Diehr* Court also reaffirmed a second corollary to the machine-or-transformation test by stating that “insignificant post solution activity will not transform an unpatentable principle into a patentable process.” *Id.* at 191-92, 101 S.Ct. 1048; *see also Flook*, 437 U.S. at 590, 98 S.Ct. 2522 (‘The notion that post-solution activity, no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable process exalts form over substance.’).

Bilski, 545 F.3d at 957.

Step d manipulates a mathematical algorithm. It is a step that determines a suitable agent and which contains no structure other than to be “computer-implemented.”

The *Diehr* Court stated:[W]hen a claim containing a mathematical formula implements or applies that formula in a *structure* or process which, when considered as a whole, is performing a function which the patent laws were designed to protect (*e.g., transforming or reducing an article to a different state or thing*), then the claim satisfies the requirements of § 101.” 450 U.S at 192, 101 S.Ct. 1048 (emphases added).

Bilski, 545 F.3d at 956, fn. 12. Here, the function or algorithm is not in a process for transforming or reducing an article to a different state or thing but rather is implemented in a computer to determine a suitable agent to allocate the order to.

The question is whether “computer-implementation” of an algorithm in the allocation of an order is patentable subject matter under §101.

Given that claim 1 recites no other structure in the body of the claim; the phrase “computer-implemented” in the preamble of claim 1 is a nominal recitation of structure. Albeit the phrase ties the claimed process to a computer per se, it does not tie the process to any particular computer. By this phrase, the claim covers tying the process to any general-purpose computer. Thus, the claim covers implementing a particular algorithm in a general purpose computer for the allocation of a location-related order.

Algorithms per se are not patentable under §101.

Mathematical algorithms have, in other cases, been identified instead as abstract ideas rather than laws of nature. *See, e.g., State St.*, 149 F.3d at 1373. Whether either or both views are correct is immaterial since both laws of nature and abstract ideas are unpatentable under § 101. *Diehr*, 450 U.S. at 185, 101 S.Ct. 1048.

Bilski, 545 F.3d at 953, fn. 6.

Given that the process in the body of claim 1 is not patent-eligible, we consider the addition of a nominal recitation of a computer in the preamble of the claim 1 to be a token recitation. To elevate such a token recitation of a computer to that of a “particular” machine that would satisfy the machine

prong of the *Bilski* machine-or-transformation test would be to permit clever drafting of process subject matter not contemplated by the case law and to exalt form over substance in determining whether the claimed process passes §101 muster.

Cf. Ex parte Langemyer, 89 USPQ2d 1988 (BPAI 2008) (informative): Nominal recitations of structure in an otherwise ineligible method fail to make the method a statutory process. *See Benson*, 409 U.S. [63,] 71-72. As *Comiskey* recognized, “the mere use of the machine to collect data necessary for application of the mental process may not make the claim patentable subject matter.” *Comiskey*, 499 F.3d at [1365,] 1380 (citing *In re Grams*, 888 F.2d 835, 839-40 (Fed. Cir. 1989)). Incidental physical limitations, such as data gathering, field of use limitations, and post-solution activity are not enough to convert an abstract idea into a statutory process. In other words, nominal or token recitations of structure in a method claim do not convert an otherwise ineligible claim into an eligible one. To permit such a practice would exalt form over substance and permit claim drafters to file the sort of process claims not contemplated by the case law. *Cf., Flook*, 437 U.S. [584,] 593 (rejecting the respondent's assumption that “if a process application implements a principle in some specific fashion, it automatically falls within the patentable subject matter of § 101,” because allowing such a result “would make the determination of patentable subject matter depend simply on the draftsman's art and would ill serve the principles underlying the prohibition against patents for ‘ideas’ or phenomena of nature.”). In this case, we decline to allow clever claim drafting to circumvent the principles underlying the Supreme Court's interpretation for “process.” The only recitation of structure is in the nominal

recitation in the preamble citing a “method executed in a computer apparatus.” This recitation is so generic as to encompass any computing system, such that anyone who performed this method in practice would fall within the scope of these claims. Thus, the recitation of a computer apparatus in the preamble is not, in fact, a limitation at all to the scope of the claim, and the claim is directed, in essence, to the method performed by any means. As such, we fail to find that this recitation alone requires the claimed method to include a particular machine such that the method qualifies as a “process” under § 101. We will not allow such a nominal recitation in the preamble to convert an otherwise ineligible claim into an eligible one.

For the foregoing reasons, we reject claims 1-22 under 35 U.S.C. § 101 as being drawn to nonpatentable subject matter.

Method Claim 35

Claim 35 recites “a computer program product in machine readable form.” Claim 35 is non-statutory subject matter since it is directed to a computer program product per se².

CONCLUSIONS OF LAW

We conclude that the Appellants have shown that the Examiner erred in rejecting:

² See U.S. Patent & Trademark Office, Interim Examination Instructions for Evaluating Subject Matter Eligibility Under 35 U.S.C. § 101, Aug. 2009, at 2, available at http://www.uspto.gov/patents/law/comments/2009-08-25_interim_101_instructions.pdf.

claims 1-17, 22-25, 27, 35, and 36 under 35 U.S.C. §103(a) over Powell and Kocur;

claims 18-20, 26, and 28 under 35 U.S.C. §103(a) over Powell, Kocur, and Sisley; and

claims 21 and 29 under 35 U.S.C. §103(a) over Powell, Kocur, and Ditcharo.

We conclude that the Appellants have not shown that the Examiner erred in rejecting claims 30-34; however, we denominate the rejection as a new ground of rejection.

We enter a new ground of rejection on claims 1-22 and 35 under 35 U.S.C. § 101.

DECISION

The decision of the Examiner to reject claims 1-29, 35, and 36 is reversed and to reject claims 30-34 is affirmed. We enter new grounds of rejection of claims 1-22 and 35 under 35 U.S.C. § 101.

This decision contains new grounds of rejection pursuant to 37 C.F.R. § 41.50(b) (effective September 13, 2004, 69 Fed. Reg. 49960 (August 12, 2004), 1286 Off. Gaz. Pat. Office 21 (September 7, 2004)). 37 C.F.R. § 41.50(b) provides “[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review.”

37 C.F.R. § 41.50(b) also provides that the Appellants, **WITHIN TWO MONTHS FROM THE DATE OF THE DECISION**, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

- (1) Reopen prosecution. Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner
- (2) Request rehearing. Request that the proceeding be reheard under § 41.52 by the Board upon the same record

AFFIRMED-IN-PART; 37 C.F.R. § 41.50(b)

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BARNES & THORNBURG LLP
P.O. BOX 2786
CHICAGO IL 60690-2786